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## Supernova Remnants: The Cosmic-ray Accelerators in the Milky Way

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Based on the X5 and gamma-ray observations made in the last 30 years, supernova remnants (SNRs) and their strong shock waves, have been widely accepted as the production sites for cosmic rays (CRs) with energies up to 1015 eV. Theoretical models and observations indicate that the diffusive shock acceleration process can produce particles of the required energies and imply that magnetic fields are amplified in very strong collisionless shocks. In SNRs interacting with molecular clouds (MCs), the hadronic model, where a neutral pion produced by the interactions of two protons, decays into two gammas, is the dominating scenario. In young SNRs displaying bright non-thermal X-ray emission, the gamma-ray emission is consistent with the hadronic scenario as well as the leptonic scenario involving the relativistic electrons. In this talk, we would like to discuss about these scenarios of gamma-ray production for 3C 391 and G349.7+0.2, middle-aged mixed-morphology SNRs interacting with MCs, and for Cassiopeia A, a young shell-like SNR, in a multiwavelength frame.

Presenter: Prof. ERGIN, Tülün (TUBITAK UZAY)